CATALYST FOR POLYMERIZING OLEFIN, TRANSITION METAL COMPOUND, POLYMERIZATION OF OLEFIN AND ALPHA-OLEFIN-CONJUGATED DIENE COPOLYMER

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Abstract

PROBLEM TO BE SOLVED: To obtain the subject catalyst capable of providing an &alpha -olefin-conjugated diene copolymer having excellent olefin polymerization activity, a narrow distribution of molecular weight and scarcely containing a cyclopentane skeleton in the polymer chain by using a specific transition metal compound.
SOLUTION: This catalyst comprises (A) a transition metal compound represented by the formula [M is a group 3 to 11 transition metal; (m) is 1-6; R<1> to R<6> are each H, a halogen or the like; (n) is a number satisfying the valence of M; X is H, a hydrocarbon or the like] and (B) a compound selected from an organometallic compound, an organoaluminumoxy compound and a compound reactive with the component A and forming an ion pair. Compounds, or the like, in which M is a group 4 or 5 transition metal; (m) is 1-3; R<1> is a hydrocarbon; R<2> to R<5> are each H; R<6> and X are each a halogen are new compounds in the compound represented by the formula. The compound represented by the formula is obtained by reacting, e.g. salicylaldehydes with a primary amine compound represented by the formula R<1> -NH2 and then reacting the produced ligand with a transition metal-containing compound.